

INVESTIGATIVE REPORT

EW

PET FOOD



COURTESY: FARM SANCTUARY

"Many of the diseases killing our companion animals are directly related to dietary problems. Is the only reason our companion animals don't suffer heart disease — the major cause of human death — because their diet ensures that they don't live long enough?"



916-731-5521
1-800-348-7387
FAX 916-731-4467
OnlineAPI@aol.com
P.O. Box 22505
Sacramento, CA 95822
2831 Fruitridge Road
Sacramento, CA 95820

**ANIMAL
PROTECTION
INSTITUTE
OF AMERICA**

W

hole chickens, choice cuts of beef, fresh grains, and all the nutrition that a dog or cat may ever need.

These are the images that pet food manufacturers promulgate in print and media ads.

What the pet food companies are not telling you is that instead of whole chickens they have substituted chicken heads, feet, intestines and bowels. Those choice cuts of beef have been replaced with cow brains, tongues, esophagi, fetal tissue dangerously high in hormones, and possibly diseased and even cancerous meat. Those "whole grains" have had the starch removed for corn starch powder and the oil extracted — usually by chemical processing — for corn oil, or are hulls and other remnants from the milling process. Grains used that are truly whole have usually been deemed unfit for human consumption because of mold, contaminants, poor quality, or poor handling practices.

Then just to make sure the food is nutritious, the pet food companies "fortify" it with vitamins and minerals. Why? Because the ingredients they are using are not wholesome, and the harsh manufacturing practices that make those nifty little shapes, the ones our companion animals surely love to eat, destroy what little nutritional value the food ever had.

All of it scrap material from the human food industry, all of it ending up in our companion animal's food. Brought to you by the people who caution you against feeding your animal table scraps.

Pet food is one of the world's most synthetic edible products, containing virtually no whole ingredients.

In the United States, more than 95 percent of our companion animals derive their nutritional needs from a single source — processed pet food. This report will clearly show that what you purchase and what the manufacturers advertise are two entirely different products. The difference is threatening your companion animal's health, cutting short any chance of him enjoying old age, and maybe even killing him now.

There are approximately 1500 different labels of pet food available in this country. This report focuses in very general terms on

the most visible brand names, the pet food labels that are mass-distributed to supermarkets and grocery stores; but there are many smaller pet food companies whose products may be better or worse than the best-known names.



COURTESY: FARM SANCTUARY

I. WHAT'S IN PET FOOD — INGREDIENTS

It is not happenstance that four of the top five major pet food companies in the United States are subsidiaries of major multinational food production companies: Colgate-Palmolive (which produces Hill's Science Diet pet food), Heinz, Nestle, and Mars. (Ralston-Purina moved all its consumer food products, except for pet food, to a separate, independent company in 1994.) From a business standpoint, multinational food companies owning pet food manufacturers is an ideal relationship. The multinationals have a captive market in which to dump their waste products. The pet food manufacturers have a direct link to purchase bulk material for their products. Both make a profit from selling those scraps.

Today, pet food science has advanced to where our companion animals are induced to eat things even they would normally turn up their noses at. Pet food scientists have learned that you can take a mixture of inedible scraps, fortify it with artificial vitamins and minerals, preserve it so that it can sit on the shelf for over a year, add dyes to make it pretty, and extrude it into wonderful shapes so that we as caregivers feel good about feeding it to our animals. All the while the pet food companies are making a killing in sales — to the tune of 9 billion dollars in expected sales for 1996.

So just what are the pet food companies putting in our companion animal's food and why? In his 1986 book *Pet Allergies*, veterinarian Al Plechner sums up what goes into your companion animal's food: "Condemned parts and animals rejected for human consumption are routinely re-routed for commercial pet foods. A similar fate applies to so-called 4-D animals. These are feed animals picked up dead, or that are dying, diseased, or disabled, and do not meet human-food qualifications. They are processed straightaway for companion animal consumption. Little goes to waste. Food processing refuse of all sorts winds up in your animals' dinner bowls. Moldy grains. Rancid foods. Meat meal. The latter is ground-up slaughterhouse discards often containing disease-ridden tissue and high levels of hormones and pesticides — the very things that may have contributed to the death of the steer or hog."¹ A decade later, what Plechner says is still true.

Meat By-Products, Meals, and Digests

When cattle, swine, chickens, lambs, or any number of other animals meet their ends at a slaughterhouse, the choice cuts — lean muscle tissue and organs prized by humans — are trimmed away from the carcass for human consumption. Whatever remains of the carcass — bones, blood, pus, intestines, bowels, ligaments, subcutaneous fat, hooves, horns, beaks, and any other parts not "normally" consumed by humans — is, according to the pet food industry, perfectly fit for pet food. And just when you think that it couldn't get any worse, industry experts are starting to become concerned that the "quality" of those by-products is declining even further due to the increased efficiency of mechanical deboning.

The Pet Food Institute — the trade association of pet food manufacturers — acknowledges the importance of using by-prod-

ucts in pet foods as additional income for processors and farmers: "The purchase and use of these ingredients by the pet food industry not only provides nutritional foods for pets at reasonable costs, but **provides an important source of income to American farmers and processors** [original emphasis] of meat, poultry and seafood products for human consumption."²

Many of these remnants are indigestible and provide a questionable source of nutrition for our animals. The amount of nutrition provided by meat by-products, meals, and digests varies from vat to vat of this animal protein soup. A vat filled with chicken feet, beaks, and viscera is going to make a lower amount of available protein than a vat of breast meat. James Morris and Quinton Rogers, two professors with the Department of Molecular Biosciences, University of California at Davis Veterinary School of Medicine, assert that, "There is virtually no information on the bioavailability of nutrients for companion animals in many of the common dietary ingredients used in pet foods. These ingredients are generally byproducts of the meat, poultry and fishing industries, with the potential for wide variation in nutrient composition. Claims of nutritional adequacy of pet foods based on the current Association of American Feed Control Officials (AAFCO) nutrient allowances ('profiles') do not give assurances of nutritional adequacy and will not until ingredients are analyzed and bioavailability values are incorporated."³

"Meat by-products," the catch-all phrase of the pet food industry, is a misnomer since these by-products contain little meat, if any. By-products are those parts of the animal left over after the meat has been stripped away from the bone. Chicken by-products include heads, feet, entrails, lungs, spleens, kidneys, brains, livers, stomachs, bones, blood, intestines free of their contents, and any other part of the carcasses not ordinarily consumed by humans. What the pet food manufacturers fail to mention is that most by-products, digests, and meals are also filled with other substances, such as cancerous material cut away from the carcass, Styrofoam packaging containing spoiled meat from supermarkets, ear tags, spoiled slaughterhouse meat, road kill, downer animals, and others.

Another source of meat that you won't find mentioned on pet food labels are dogs and cats. In 1990 the *San Francisco Chronicle* reported that euthanized companion animals were found in pet food. Although the pet food manufacturers vehemently denied the report, the American Veterinary Medical Association confirmed the *Chronicle's* story. When is a meat not a meat? When it's a by-product.

What can the feeding of such ingredients do to your animal? "From his experience as a veterinarian and federal meat inspector, P. F. McGargle, D.V.M., has concluded that feeding slaughterhouse wastes to animals increases their chance of getting cancer and other degenerative diseases. Those wastes, he reports, can include moldy, rancid or spoiled meats as well as tissues severely riddled with cancer. These meat scraps can also contain hormone levels comparable to those that have produced cancer in laboratory animals. Dr. McGargle attributed these high levels to two causes: synthetic hormones routinely fed to livestock to stimulate rapid growth, and meat meal whose source is often glandular wastes and fetal tissues from pregnant cows. Both are naturally high in hormones. When livestock is slaughtered and the meat is processed, the hormones are still active. High hormone levels have the most severe effect on cats, who are extremely sensitive to them. The tissues or pellets that are used to fatten steers and caponize chickens, for example, are considered toxic to cats, even in very low levels."⁴ These hormones are not destroyed by the high temperature and pressure cooking that pet food manufacture requires.



Animal and Poultry Fat

You smell it every time you open up a new can or bag of pet food, that unique pungent odor — like a restaurant grease trap that has backed up — that wafts up and sticks to the back of your throat. Some people, not wanting to contaminate the family utensils, keep special spoons for feeding the dogs. But just what is that odor? It is refined animal fat, kitchen grease, and other oils too rancid or deemed inedible for human food use.

These fats are sprayed directly onto the dried kibble or extruded pellets to make an otherwise bland or distasteful product palatable. The most nutritious dry food is no better than the worst if the animal you are feeding will not eat it. Pet food scientists have discovered that animals love the taste of this sprayed fat. The fat also acts as a binding agent to which manufacturers may add other flavor enhancers. A 1987 *Petfood Industry* magazine article describes animal fats as "ANIMAL FAT: Includes rendered fats from beef or pork by-products. This is mainly packing house offal or supermarket trimmings from the packaging of meats."⁵

Restaurant grease has become a major component of feed-grade animal fat over the last fifteen years. This grease, often held in fifty-gallon drums for weeks or months on end in extreme temperatures, is usually kept outside with no regard for its safety or further use. This rancid grease is then picked up by "fat blenders," who mix the animal and vegetable fats together, stabilize them with powerful antioxidants to prevent further spoilage, and then sell the blended products to pet food companies.

Lisa Newman, owner of Holistic Animal Care, says, "Animal fats are used to provide essential oils for good skin and coat conditions . . . is it any wonder then why there is such a dramatic health problem in this area today?! Rancid, heavily preserved fats are extremely difficult to digest and can lead to a host of other health problems in your pet. Digestive upsets, especially throwing up bile or food, diarrhea, gas and bad breath are all linked to this. When fed to the newly developing digestive tract of puppies and kittens, it can permanently effect this sensitive lining, leading to a life time of digestion and assimilation problems. Fat can continue the allergy (sensitivities) response, especially in the lamb and rice formulas."⁶

Wheat, Soy, Corn, Peanut Hulls, and Other Vegetable Protein

The amount of grain products included in pet food has risen over the last decade as the American population has focused its attention away from consuming beef and toward a healthier diet of grains and vegetables. Thus pet food manufacturers find fewer by-products available to them.

Once considered a filler by the pet food industry, grain products now make up a considerable portion of pet food. Commonly two of the top three ingredients are some form of grain products. Alpo's Beef Flavored Dinner® for instance lists Ground Yellow Corn, Soybean Meal and Poultry By-Product Meal as its top three ingredients. 9 Lives Crunchy Meals® lists Ground Yellow Corn, Corn Gluten Meal and Poultry By-Product Meal as its top three ingredients. Pedigree® Performance Food for Dogs lists Ground Corn, Chicken By-Product Meal, and Corn Gluten Meal as its top three ingredients.

The irony of feeding corn to cats — corn is the top two ingredients in 9 Lives® — is that cats were originally domesticated by the Egyptians thousands of years ago to protect granaries from rodents. Since cats are obligate carnivores — they *must* eat meat to fulfill certain physiological needs — one wonders why we are feeding a corn-based product to them. The answer is that corn is much cheaper than meat products.

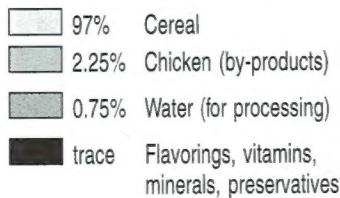
Of the top four ingredients of Purina's® O.N.E. Dog Formula — Chicken, Ground Yellow Corn, Ground Wheat, and Corn Gluten Meal — two are corn-based products . . . the same product. This is an industry practice known as splitting. When components of the same whole ingredient are listed separately — "Ground Yellow Corn" and "Corn Gluten Meal" — it appears that there is less corn than chicken, even when the whole ingredient may weigh more than the chicken.

In 1995 Nature's Recipe pulled thousands of tons of dog food off the shelf after consumers complained that their dogs were vomiting and losing their appetite. Nature's Recipe's loss amounted to \$20 million dollars. The problem was wheat contaminated

by a fungus that produced vomitoxin, an aflatoxin which is a subset of mycotoxin, a poison given off when mold grows. Ross Becker in *Good Dog!* magazine calls aflatoxin "a particular problem with peanuts, especially during rainy growing seasons. The fungi which produces it grows on the peanut shells, and can contaminate products like peanut butter — and dog food. One manufacturer of a popular brand of canine maintenance light food used 15% peanut hulls as a fiber source. A few years ago they suddenly changed fiber sources, without notifying the public. An inside source told us that it was due to aflatoxin problems. They have since resumed using peanut hulls."⁷

Although it caused many dogs to vomit, stop eating, produce diarrhea-type stools, or experience some internal discomfort, vomitoxin is fortunately a milder toxin. However, other mycotoxins produce more virulent symptoms including loss of weight, liver damage, lameness, and, occasionally, death. The Nature's Recipe fiasco prompted the Food and Drug Administration (FDA) to intervene. Dina Butcher, agriculture policy advisor for North Dakota Governor Ed Schafer, concluded that discovery of vomitoxin in Nature's Recipe wasn't much of a threat to the human population because "the grain that would go into the (pet) food is not a high quality grain."⁸

Dinner with Chicken



Soy is another common ingredient in many pet foods. Like many other ingredients in pet food, soy is virtually unusable by an animal's body. Being obligate carnivores, cats have little ability to digest any nutrients from soy. The problem is worse for dogs as they lack the essential amino acid to digest soy products. Soy has also been linked to bloat and gas in many dogs. It is used by the manufacturers to boost the claimed protein content and add bulk so that when your companion animal eats a product containing soy it will feel more sated.

Industry critics note that many of the ingredients used as humectants — ingredients such as corn syrup and corn gluten meal which bind water molecules in order to prevent oxidation — also bind the water in such a way that the food actually sticks to the colon and may cause blockage. The blockage of the colon may cause an increased risk of cancer of the colon or rectum.

Sodium Nitrite

Sodium nitrite is often used in pet food as a coloring agent and fixative as well as another form of a preservative. More commonly found in red-colored pet food, sodium nitrite has the ability to combine "with natural stomach and food chemicals (secondary amides) to create nitrosamines, powerful cancer-causing agents," according to *A Consumer's Dictionary of Food Additives*.⁹ Researchers at the Michael Reese Medical Center linked infinitesimal amounts of nitrites to cancer in laboratory mice, especially in the liver and the lung. The FDA in the 1980s tried to ban nitrites based on its potential carcinogenic effects; however, food manufacturers lobbied successfully to have the ban repealed by pleading that there was no alternative was yet available on the market.

Synthetic Preservatives

Because most pet food contains large percentages of added fat, a stabilizer is needed to maintain the wholesomeness and quality of the food. Antioxidant preservatives include tocopherol, citric acid, ascorbates, ethoxyquin (EQ), propyl gallate, tertiary

butylhydroquinone, butylated hydroxytoluene (BHT), and butylated hydroxyanisole (BHA). Many pet foods advertised as "preservative-free" in reality contain preservatives. This is possible because many rendered meats have synthetic preservatives added to stabilize the meat; as the law is currently written, the manufacturer does not have to list the preservative if it wasn't added by the manufacturer.

How prevalent are synthetic additives in pet food? Two-thirds of the pet food manufactured in the United States contains synthetic preservatives added by the manufacturer; of the remaining third, 90 percent includes ingredients already stabilized by synthetic preservatives.

Premixed vitamin additives used to supplement the pet food can also contain preservatives. This means that your companion animal may eat food with preservatives of several types and sources added at the rendering plant, production plant, and in supplemental vitamins. Veterinarian Philip Roudebush, who analyzed several pet food products labeled as "chemical free" or with "all natural" ingredients, "found synthetic antioxidant preservatives, albeit in low concentrations" in all the samples analyzed.¹⁰ Other types of additives used depend on whether the pet food is semi-moist, dry or canned. Because semi-moist food contains 25-50 percent water, antimicrobial preservatives must be used. One such, propylene glycol, was frequently used in cat food until it was pulled because of health-related concerns, beginning in 1992. Propylene glycol has been documented as causing hematologic abnormalities, leading to central nervous system depression and kidney damage.

Adding chemicals to foods originated thousands of years ago with spices, natural preservatives, and ripening agents. In the last 40 years, however, the number of food additives has leaped off the scale. Today, of the more than 8,600 recognized food additives, no toxicity information is available on 46 percent, only 5 percent of the additives have had a complete health-hazard assessment, and many which are known to be cancer-causing agents in certain levels are permitted at lower levels. Continued use of these low levels may build up in the tissues, so that ingesting small portions over time may have the same effect as ingesting a large single dose. Ethoxyquin, for example, was found in dogs' livers and tissue months after it had been removed from their diet.

About 60 percent of all herbicides, 90 percent of all fungicides and 30 percent of all insecticides have proven to be cancer causing in and of themselves.¹¹ Many if not all of these ingredients find their way into pet food via the grain products and meat used. Furthermore, the National Research Council (NRC) has reported that no toxicity data is available for about 80 percent of the 49,000 commercially used chemicals. This translates to bedlam where chemical toxicity and safety is concerned. Long-term studies are not only expensive but difficult to conduct, as cancer-causing agents may take up to 20 years to develop into cancer. While studies of direct toxicity of these additives and preservatives are required by law, most of these additives have not been tested for their effect on each other. Three commonly used preservatives — BHA, BHT and EQ — have a proven synergistic effect that leads to the development of various forms of cancer.

Ethoxyquin has been blamed for widespread infertility, neonatal illness and death, skin and hair coat problems, immune disorders, thyroid, pancreas, and liver dysfunction, and behavioral disorders in purebred dogs.

BHT/BHA: Used not only in animal foods but human foods as well, both BHT and BHA have a long history of suspected carcinogenesis. In a ground-breaking series of articles on dog nutrition published in *DOGworld* magazine, noted dog author John Cargill cited "a study in 1984 [that] demonstrated that the four most commonly used synthetic antioxidants — BHA, BHT, ethoxyquin and propyl gallate — actually increased the toxicity of other chemicals, increased mutagen activity, increased the sensitivity of an organism exposed to radioactivity and increased the tumor yield from chemical carcinogens. A more recent study," he continued, "looked at phenolic compounds in general (which include the natural and synthetic antioxidants) and it was found that they induce double-strand DNA breaks, DNA adducts, mutations and chromosomal aberrations in a great variety of test systems."¹² He further noted that BHA has been known to enhance forestomach carcinogenesis. BHT on the other hand has been known to enhance esophageal carcinogenesis. Cargill concludes, "Beyond a shadow of a doubt, at some level of ingestion, synthetic antioxidants are inducers or promoters of neoplasia, i.e., cancer. True safety and toxic levels are not well known or adequately researched in the dog."¹³

Ethoxyquin (EQ): First used as a rubber stabilizer, ethoxyquin (EQ) has also been effective as an insecticide and a pesticide. EQ, developed by Monsanto in the 1950s, was originally permitted in feeds as a stabilizer for alfalfa, clover, and grasses to be fed to livestock, at 150 ppm (150 ppm is equal to .015 percent or 4.8 oz. per ton). Pet food was never considered in the original permit, but, because pet food falls under the legal category of animal feed, the use of EQ is permissible. (Consider the weight and digestive processing of a cow or other ruminant compared to, for example, an eight-pound cat.)

FDA officials clearly recognized EQ as a poisonous substance and permitted minuscule amounts in feedstuff only because it was the cheapest and most powerful preservative available. FDA and Monsanto researchers originally thought that EQ degraded at around 160 to 190° C, so that when a product containing EQ was cooked, the EQ simply disappeared. Later research proved that it didn't disappear, it mutated into oxidized EQ. The FDA kept allowing more usage in pet foods because it was more concerned

about the animals that were part of the human food chain. Since Americans do not consume companion animals there was little worry on the part of the FDA. Today, probably every dog food is preserved with EQ in some way, although you won't find it on the label, since EQ is often added at the rendering plant.

(The Coast Guard, which regulates fish production/canning/meal, requires that fish meal be stabilized with EQ at a level of 400-1000 ppm, significantly higher.)

Monsanto has been requested to retest the safety of EQ, in part based on a petition filed by Carol Barfield (co-founder of the United Animal Owners Association), who became alarmed after one of her animals "was diagnosed as hopelessly allergic to practically everything."¹⁴ Monsanto has doctored test results in the past: In 1990, an Illinois state court found that Monsanto had altered the results of a study of cancer among workers exposed to dioxins in the production of Agent Orange.

Lisa Newman describes EQ as very similar to Agent Orange, and notes "the documented cases of serious side-effects, resulting from exposure to or ingestion of this chemical. Humans who were working with it in the rubber industry, reported a dramatic rise in such diseases as liver/kidney damage, cancerous skin lesions, loss of hair, blindness, leukemia, fetal abnormalities and chronic diarrhea. In animals it has been linked to immune deficiency syndrome, spleen, stomach and liver cancer, as well as the above mentioned diseases. The steady increase in animal cancer and serious diseases has paralleled the increased use of chemical preservatives in the pet food industry during the last twentyfive years."¹⁵

The original studies conducted on EQ were so poorly conducted that Monsanto originally released only the test results to the FDA, and suppressed the full study for 22 years. In reviewing the Monsanto studies of EQ, API noted a devastating distemper and hepatitis outbreak in the testing lab, uncontrolled breeding, and two unweaned puppies dead of rat poison. Most of the puppies in the generational study were inbred and considered weak, which is why three of six puppies died. Dogs were fed ad libitum (free standing) with no control over how much each ate, the control dogs were mixed up with test dogs and the researchers couldn't figure out which belonged to the control group. The dogs were taken off EQ two days out of every week, which amounts to more than 28 percent of the time. Given today's standards, this study is highly suspect.

Processing can do little more than
sterilize the ingredients or transform
the pet food into a toxic soup filled
with unusable nutrients.

According to Carol Barfield's petition, "Only after virtually every pet food brand and type contained Ethoxyquin did dog-species liver, kidneys and immune system dysfunction and 'allergies' become epidemic."¹⁶ The petition also asserts — backed by research — that given today's high level of fats in pet food the antioxidant EQ reacts to become toxic. The original formulas on which EQ was tested were much lower in fat content than today's pet food.¹⁷

Even when EQ and other preservatives/additives may not cause direct toxicity, they can act as a trigger mechanism. There is evidence that cancer in dogs is on the rise, and many veterinarians believe that this is due either to the actual processing of food or to the additives and low nutritive substances used in pet food.

Perhaps the worst thing about ethoxyquin is that it cannot be detected once it has been added to a food source. There is absolutely no way of knowing if the pet food companies are complying with the law or not. The number of food products to which EQ has been added far exceeds initial approval guidelines.

II. THE MANUFACTURING PROCESS

How Pet Food Is Made

The processing of pet food is similar for most major companies. First, potential consumers — companion animal and human — are identified. Then nutritionists create a diet, working within certain parameters such as bottom-line profits, nutritional qualities, and target market. A preliminary batch of food is then produced for the feeding trials or for analysis. Some companies have their own in-house feeding labs; others outsource their feeding trials to universities or to for-profit corporations that specialize in feeding trials. Feeding trials last anywhere from ten weeks to six months. However, it appears that few *long-term* studies on pet food are conducted today, and even fewer *generational* trials.

In developing new pet foods most manufacturers require a palatability study. Animals are fed side-by-side dishes, one consisting of a new food, the other a similar brand. The total volume eaten is used as a gauge for the palatability of the food. Most pet food companies keep their own animals for taste testing, using diverse breeds of purebred animals.

Dry food is made with a machine called an extruder that cooks and dries foods to different percentages of moisture. First, raw materials are blended, sometimes by hand, other times by computer, in accordance with the recipe established by the nutritionists. Some manufacturers who use antiquated processing equipment do not mix ingredients by weight or volume but rather by how many seconds a worker must pull down on a lever. The ingredients are then mixed together with the aid of water and/or steam. The mixture goes through the extruder where a die forces it into the desired shape, and then it is cooked at high temperatures for a short period of time, around 10 to 15 minutes. Another 30 to 45 minutes is devoted to drying the food. Once the food is dried it is usually sprayed with digest of fat and pre-digested food to make it more palatable.

Canned food begins with ground ingredients mixed with additives. If chunks are required, a special extruder forms the chunks.

Then the mixture is cooked and canned. The sealed cans are then put into containers resembling pressure cookers and commercial sterilization takes place. Some manufacturers cook the foods right in the can.

What Happened to the Nutrients?

R. L. Wysong, veterinarian and long time critic of the pet food industry, has said that "Processing is the wild card in nutritional value that is, by and large, simply ignored. Heating, freezing, dehydrating, canning, extruding, pelletizing, baking, and so forth, are so commonplace they are simply thought of as synonymous with food itself."¹⁸ He also notes that loss of nutritional value extends to meat products as well. Beef muscle normally contains 362 mg/kg of taurine; when it is boiled (a common practice) taurine is reduced to 60 mg/kg. Similarly, taurine in liver drops from 192 mg/kg to 73 mg/kg after boiling, in kidneys from 225 mg/kg to 73 mg/kg. (Cats cannot synthesize taurine; deprived of taurine, cats may go blind or suffer heart failure.) Unfortunately, the nutritional value of meat by-products cannot be cited since the nutritional value changes from tank to tank.

Pet food processing destroys enzymes (proteins present in all living foods) when its temperatures rise above 115 to 120 degrees. So, after processing, the enzymes, necessary in aiding auto-digestion, are put back. Pancreatic hypertrophy found in animals and humans is believed to be a result of processed food lacking enzymes. Rats fed a processed diet had pancreases 300 percent larger than those fed a raw diet. Wysong also notes, "Additionally new diseases are being discovered that are linked to '100 percent complete' diets such as polymyopathy from low potassium levels, dilated cardiomyopathy from low taurine levels, arthritic and skin diseases from acid/base and zinc malnutrition and chronic eczema from essential fat acid malnutrition. These have occurred with both low priced generic as well as the higher priced super premium foods and even in foods commonly dispensed by veterinary practitioners."¹⁹

"Some nutritionists," writes Roudebush, "argue that many human health problems began about 1950, when food containing legal chemical additives became increasingly prevalent, when the use of highly processed foods increased to the point that they composed a predominant portion of the diet in industrialized countries, and when contamination of some foods with the by-products of industrial activities became more common."²⁰ Some additives that have been documented to cause problems in human beings are commonly found in pet foods, such as tartrazine, sodium bisulfite, sodium glutamate, azo dyes, sodium nitrite, butylated hydroxyanisole, spices, sodium alginate, and guar gum. Although it is not well documented, many veterinarians cite food additives as causing dermatologic or gastrointestinal problems.²¹ As mentioned above, the common preservative ethoxyquin has been blamed for widespread infertility, neonatal illness and death, skin and hair coat problems, immune disorders, thyroid,

Common pet food additives

Antioxidant preservatives	Azo dyes (tartrazine [FD&C yellow No. 5], sunset yellow [FD&C yellow No. 6], alura red [FD&C red No. 40])	Sucrose, dextrose, cane molasses
Ethoxyquin	Spices	
Butylated hydroxyanisole	Acidified yeast	
Tertiary butylhydroquinone		
Propyl gallate		
Tocopherols		
Rosemaric acid/rosmarequinone		
Antimicrobial preservatives		
Citric acid		
Hydrochloric acid		
Phosphoric acid		
Sorbic acid		
Fumaric acid		
Pyroligneous acid		
Propionic acid		
Sodium propionate		
Calcium propionate		
Potassium sorbate		
Sodium nitrite		
Humectants		
Sorbitol		
Corn syrups		
Sucrose/dextrose		
Cane molasses		
Coloring agents/preservatives		
Artificial colors		
Natural colors		
Emulsifying agents, stabilizers, and thickeners		
	Glyceryl monostearate	
	Monoglycerides (of edible fats and oils)	
	Diglycerides (of edible fats and oils)	
	Glycerin	
	Modified starch	
	Gums (Hydrocolloids)	
	Exudate gums (gum alabic)	
	Seaweed extracts (carrageenan, alginates)	
	Seed gums (guar gum)	
	Microbial gums (xantham gum)	
	Chemically modified plant materials (sodium carboxymethylcellulose)	
Flavors/flavor enhancers		
Digests		
Artificial flavors		
Natural flavors		
Citrus bioflavonoids		
Liver meal		
Dehydrated cheese/dried cheese powder		
Monosodium glutamate		
Natural smoke flavor		
Palatability enhancers		
Digests		
t-Lysine		
Onion powder/oil		
Garlic, garlic powder/oil		
Phosphoric acid		
Hydrochloric acid		
Miscellaneous additives		
<i>Yucca schidiera</i> extract (flavor, odor control)		
Mineral oil (reduce dust)		
Charcoal		
Polyphosphates		
Sodium tripolyphosphate		
Disodium phosphate		
Tetrasodium pyrophosphate		



pancreas, and liver dysfunction, and behavioral disorders in purebred dogs.

Fixed Versus Variable Formulas

Most popular brands of pet food today use a "variable formula diet," which means that content of the pet foods varies from batch to batch. Whichever ingredient is the cheapest and most available that day is the one that will be used in the greatest quantities. AAFCO regulations permit manufacturers who use variable formula diets to wait up to six months before changing the labels of their foods after changing the formula. (This gives them time to use up all the bags they may have in storage.) For example, if the label lists lamb, ground yellow corn, and poultry by-products as its top three ingredients, using a variable formula may make ground yellow corn the number one ingredient, but the label need not reflect the change for up to six months.

Fixed formula products — predominately the super premium foods — do not change their formula even when one ingredient may be more readily available than another. They usually incorporate better ingredients and so have the advantage of consistency. For caregivers who prefer processed pet food but whose dogs or cats have health problems in which nutrition plays a key role in management, fixed formula products are an imperative.

Creating New Toxic Compounds

Processing can do little more than sterilize the ingredients or transform the pet food into a toxic soup filled with unusable nutrients. The body can use certain amino acids, but when they are heated and extruded, half of the amino acids convert to an

unusable form. Wysong writes that "Additionally, under processing conditions proteins can complex with carbohydrates and certain lipids, rendering them unavailable nutritionally. Minerals such as copper and iron, if blended with certain vitamins and unsaturated fatty acids, will oxidize and degrade them. Some vitamins are very fragile if subjected to heat and can readily be oxidized or otherwise degraded."²² According to Wysong, hundreds of degradations occur in the processing of pet food. That is why most pet foods are fortified with riboflavin and other additives.

However, none of these added minerals and vitamins is as good for your companion animal as the natural source. In fact, many manufacturers over-fortify their diets to make sure their pet foods have enough of the minimum daily requirements.

Nutritional fatty acids are long chains of carbon molecules which are quite fragile when exposed to heat or light, as most are during the processing of pet food. Wysong believes that these fatty acids no longer are valuable nutritionally, and asserts that they can become toxic, forming compounds such as epoxycholesterol and trihydroxycholesterols. Once these cholesterols are eaten they can form lesions or plaques on blood vessel walls, or narrow the coronary vessel wall; both conditions in humans lead to strokes and heart attacks. Other forms of toxic compounds that can form during processing are nitrosamine and nitropyrenes, both harmful to the body.

Chicken 'n' Fish Cat Food

40%	Chicken (by-products)
30%	Fish (by-products)
25%	Water (for processing)
5%	Cereal
trace	Flavorings, vitamins, minerals, preservatives

Processing also degrades many of the pro-biotics, those microscopic organisms that help our intestinal gut break down and digest food. These pro-biotics are very susceptible to heat and subsequently are absent from processed pet food.

Labeling

Ingredients are listed in descending order of weight (heaviest first) under standards established by the Center for Veterinary Medicine for the FDA. The name of the product (in most states) is dictated by the regulations of the American Association of Feed Control Officials (AAFCO). Trouble is, AAFCO standards can lead to deceptive product names. These AAFCO rules regulate what's on the label:

The "95 percent" rule means that if the label reads "beef for dogs," it must contain 95 percent "beef" (beef by-products), although up to 25 percent can be water "sufficient for processing." If the name includes a combination of ingredients, such as "Chicken 'n' Fish Cat food," the two together must equal 95 percent of the total weight, and there must be more chicken than fish.

The "25 percent" rule permits only 25 percent of the named food be included if descriptive terms such as *dinner, nuggets, platter, or entree* appear on the label. The two ingredients of "Chicken 'n' Fish Dinner for Cats" together must total 25 percent, with at least 3 percent fish.

The "3 percent" rule applies to ingredients included on the label but not part of the product name. In "Chicken Dinner with Tuna for Cats," only 3 percent must be tuna.

Inevitably, the pet food manufacturers will try to cut costs and increase profits by using only the minimum content required to match the label.

A meat by-product listed first does not necessarily mean that it is the primary ingredient. Remember, ingredients are listed by weight, not volume. Consider a two-pound box of sugar and a one-pound bag of chicken feathers. Obviously the chicken feathers will take up more space. However, under current FDA rules (and this applies to human food as well), the heaviest ingredient —

"sugar" — is listed first even though by volume the "feathers" make up the larger portion of the food.

The list of ingredients can also be deceiving when water has been added for processing.

"As a result, an ingredient that actually contributes a low proportion of nutrients to the food may be listed first if it has a high water content, but an ingredient that contributes a large proportion of the nutrients to the food may be lower on the ingredient list if it has a low moisture content. A common example involves the use of textured vegetable protein (TVP) in canned pet foods. TVP is composed of extruded soy flour that is dyed and shaped to resemble meat products. The actual meat ingredients in a product that contains TVP can be listed high on the ingredient list because they are added in a wet form. However, TVP is added to the formulation in a dry form and therefore appears to contribute very little on an [as fed] basis. In reality, most of the protein in the food is coming from the TVP and not from the first-listed, animal-source ingredients."²³

If a can of "Dinner with Beef" were as big as a three-bedroom house, the amount of beef (which includes organs, viscera, brains, and anything else we wouldn't want to eat) would fill one closet. Preservatives, vitamins, minerals, and flavorings would each take up about the volume of a drinking glass. The rest of the house would be filled with cereal.

III. PROBLEMS PET FOOD CAN CAUSE

When asked what to do when companion animals have dull or poor quality coats, veterinarians and breeders alike first suggest changing the companion animals' food. The skin is the largest eliminatory organ in the body, which is why skin and coat problems are often the first indicators of poor nutrition. While the food you are feeding may be a top quality food, it may not meet the nutritional needs of your particular breed or animal. Certain nutritional requirements (for example, lysine) can vary between species by as much as sevenfold.

The pet food industry and those who govern it have inflicted a great injustice on our animals by establishing a general guideline for nutrients, minerals, and vitamins. Although established minimums act as a guide for veterinarians and companion animal care providers, very few animals can exist on minimums. A minimum is not an ideal average for your animal, it is a point at which research has proven that any compound below that minimum has the potential to cause nutritional disorders. What the industry fails to point out is that pet foods are "balanced" for the average animal, but since no individual animal is "average" most companion animals are on one side or the other of "normal." Hence, one dog's food may be another dog's garbage.

Minimum statements on labels are quite liberal, but a label that claims a minimum of 8 percent crude fat may mean the actual fat content is much higher, even around 10 percent or 12 percent. That variance can make a huge difference in a companion animal's health.

The guarantee for crude protein, crude fat, and crude fiber all refer to a chemical analysis of the food that does not always reflect the true level on nutrients. *Canine and Feline Nutrition* reflects on how difficult it is to measure the true crude nutrient content of any given substance. For example, "Crude fiber represents the organic residue that remains after plant material has been treated with dilute acid and alkali solvents, and after the mineral component has been extracted. Although crude fiber is used to report the fiber content of many commercial products, it usually underestimates the level of true dietary fiber in a product. It has been determined that the crude fiber method recovers only 50% to 80% of the cellulose, 10% to 50% of the lignin, and less than 20% of the hemicellulose in a given sample. Consequently, crude fiber may be a measurement of most of the cellulose in a sample, but it underestimates all of the other dietary fiber components."²⁴ Also, testing methods do not accurately reflect the degree of nutrient availability for the body. As reported earlier, a substance may have a low nutrient availability yet yield a higher figure because it was analyzed in a different way. Flatly, the guaranteed analysis panel does not represent the actual levels of nutrients.

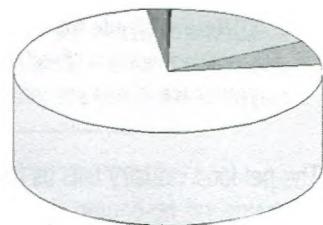
It is not uncommon for pet foods to fail a chemical analyses test. In 1994 tests in New York state, 7 percent of all pet foods analyzed failed chemical analyses for guaranteed nutrients. Other states report similar findings, with failure of analyzed feed ranging from 5 to 12 percent.

Why Diet Changed in the Last Few Hundred Years

Dogs have lived with humans for about fifteen thousand years — a time when Cro-Magnon still populated the earth — cats for perhaps five thousand. The traditional diet of our companion animals for the last several millennia consisted of unprocessed, mostly uncooked, raw food or leftovers from what we ourselves eat.

Yet beginning in 1908, when "Bennet's Milk-Bone Dog and Puppy Foods" was developed and marketed in the United States, the whole nutritional base of our animals has shifted to highly processed and heavily chemically-laden foods, an abrupt change from a natural diet that lasted for thousands of years.

Before the late 1950s, pet food contained more meat and fewer remnants of post human food production. Today, with compet-



Chicken 'n' Fish Dinner for Cats

- 75% Cereal
- 16.5% Chicken (by-products)
- 6.25% Water (for processing)
- 2.25% Fish (for processing)
- trace Flavorings, vitamins, minerals, preservatives

ing demand for many of these ingredients, pet food manufacturers must look to other sources for ingredients of pet food.

"100 Percent" Myth

Food nutrition has come a long way in the last hundred years, but our understanding of it is far from complete. Medical journals abound with new information on the importance of nutrition and the problems facing companion animal care providers and the manufacturers of pet food. How then can any pet food be guaranteed to be one hundred percent complete or nutritionally adequate?

While the manufacturers claim that millions of companion animals can thrive on a diet consisting of nothing but commercial pet food, research and an increasing number of veterinarians implicate processed pet food as a source of disease or as an exacerbating agent for a number of degenerative diseases. In fact, kidney disease is one of the top three killers of our companion animals. According to Plechner, "the extra protein and harsh ingredients" of many pet foods "place an overload on the kidneys. . . . Nature never designed canine or feline kidneys to handle the volume of impurities that comes their way. The result is fatigued, irritated, damaged and deteriorated kidneys after several years of life. . . . Left untreated, the toxic buildup leads to vomiting, loss of appetite, uremic poisoning and death."²⁵ Wysong adds, "In the last few years, large statistical studies have shown the link between the diet and a variety of degenerative diseases including cancer, heart disease, allergies, arthritis, obesity, dental disease, etc. and processed foods."²⁶

Different Needs for Different Breeds

Wysong says, "Feeding an animal based upon averages is like being asked to wade across a stream with 100 pounds tied to your back if you are told the average depth is four feet. By feeding every animal as if it were an average, it is possible to create excesses for certain animals who have decreased needs for certain nutrients, and deficiencies for others who have increased needs due to their biochemical individuality. In other words, we have no assurance that at some point in the stream the depth may not be over our nutritional head."²⁷

The pet food industry tells us it's what's best for our companion animals, but in truth commercial pet foods cause them illness and suffering, make our veterinarian bills soar, and may drastically shorten the lives of our animal companions. It's not the best food we can give to our companion animals; it may be the worst.

and cats may be that they are not eating their traditional diet.

Food Allergies

As much as two million dogs and cats may suffer some type of food allergy or intolerance. (Wheat gluten alone contains 20 known allergic components.) A possible connection between the perceived increase in food allergy or food intolerance in dogs

Plechner states his belief that companion animals' health problems are at an epidemic level because of two human endeavors: breeding practices that emphasize physical features over health, and improperly designed pet food. "Many products don't even meet minimum standards. Manufacturers often put more effort into cosmetic effects for you, the buyer, than into nutritional quality for the animal. They want food that looks good to eat. Whether it is good enough for the animal to live on is another matter. Among pets there is widespread intolerance of commercial foods. This rejection shows up as violent sickness or chronic health problems. It often triggers a hypersensitivity and overreaction to flea and insect bites, pollens, soaps, sprays and environmental contaminants." Plechner believes that "one out of two animals brought in to veterinary hospitals today may be suffering from some degree of allergic malady, a hypersensitive state that can cause death just as easily as it can cause an everyday scratching problem."²⁹

"From my experience with my own companion animals," says Alan Berger, API's Executive Director, "through the research I've read, and the talks I've had with veterinarians, it's apparent to me that processed pet food may be making our companion animals ill if not unduly shortening their lives. And as *their* companions, we caregivers also suffer unreasonable stress and added financial burden."

Mr. Berger continues, "It's clear to me that many of the diseases killing our companion animals are directly related to dietary problems. Is the only reason our companion animals don't suffer heart disease — the major cause of human death — because their diet ensures that they don't live long enough?"

IV. WHAT YOU AND API CAN DO

Our companion animals deserve better than a can of food scraps. API's plan of action to reform the processed pet food indus-

try needs your help. Please join our campaign to make pet food safe for our companion animals. Choose one or all of the following actions. Send any responses you receive from officials to API so that we can monitor and follow up with appropriate action.

Pet Food Companies

In the constant battle of profit vs. quality pet food, profit wins every time. Pet food sales in the U.S. now total \$10 billion a year. Pet food is big business and, just like the tobacco companies, pet food companies are looking to foreign trade to boost their sales to higher levels.

We know that nutrition is vital to good health and the quality of life, and growing evidence clearly links inferior nutrition to disease. Whether manufactured for animals or humans, processed foods have been identified as the cause of such associated diseases as obesity, diabetes, cardiovascular disease, dental decay, immune dysfunction, liver and kidney disease, and cancers. We must take responsibility for the nutritional health of our companion animals, or the incidence of animal diseases will continue to escalate.

The pet food companies have convinced the government that a self-regulating industry is fully capable of producing a healthy and nutritious food by using the remnants of human food production and mixing them with stabilizing chemicals that we ourselves do not eat. Manufacturing practices have turned pet food into a toxic soup of complex chemical chains that bear little resemblance to natural unprocessed foods.

One of the strongest voices animal lovers have is their pocketbooks. Based on the information presented in this investigative report, if you suspect your current pet food company is not honest about the products it sells, switch brands — or better yet cook for your animals — and write to the CEO of that company (listed below) explaining why you will no longer purchase their brand of dog food. In your letter, ask the pet food company to:

- Define their ingredients, especially "by-products," "meal," and other vague terms, clearly.
- List ingredients by volume, not weight, for a clearer idea of the composition of the food.
- Change the label so that the "nutritional value" panel realistically supplies details on the food's nutritional value.
- Explain the true digestibility of the components listed in the "guaranteed analysis."
- Stop using the least expensive products available.
- List on the label whether their formulation is variable or fixed.
- Provide you with data on safety studies of additives, ingredients, processing, and field trial studies.

Read carefully the information they send you (pet food companies are notorious for sending out only what they want you to know). If they have not addressed your questions, write to them again. Then send a copy of all correspondence to: Pet Food Investigator; Animal Protection Institute; P.O. Box 22505; Sacramento, CA 95822. We will review and collate the information to present a stronger case to the government.

Heinz makes 9-Lives, Amore, Gravy Train, Kibbles 'n Bits, Meaty Bones, Recipe, and Vets. U.S. sales: \$1.2 billion.

Write: Anthony J. F. O'Reilly; Chairman, President, and CEO; **Heinz**; 600 Grant St.; Pittsburgh, PA 15219; Phone: 412-456-5700; Fax: 412-237-7883.

Mars makes Kal Kan, Mealtime, Pedigree, Sheba, and Whiskas. U.S. sales: \$678 million.

Write: Forrest E. Mars, Jr.; Chairman, CEO, and Co-President; **Mars**; 6885 Elm St.; McLean, VA 22101-3810; Phone: 703-821-4900; Fax: 703-448-9678.

Nestle makes Alpo, Fancy Feast, Friskies, and Mighty Dog. U.S. sales: \$1.4 billion.

Write: Joe Weller; President and CEO; **Nestle USA, Inc.**; 800 N. Brand Blvd.; Glendale, CA 91203; Phone: 818-549-6000; Fax: 818-549-5884.

Ralston-Purina makes Alley Cat, Cat Chow Special Care, CNM Clinical Nutrition Management, Deli-Cat, Dog Chow Senior, Meow Mix, Pro Plan, Purina Cat Chow, Purina Dog Chow, Purina Fit & Trim, Purina Hi Pro, Purina Kibbles, Purina O.N.E., and Purina Puppy Chow. U.S. sales: \$1.5 billion.

Write: William P. Stiritz; Chairman, President, and CEO; **Ralston Purina**; Checkerboard Square; St. Louis, MO 63164; Phone: 314-982-1000; Fax: 314-982-2134.

"Meat meal . . . is ground-up slaughterhouse discards often containing disease-ridden tissue and high levels of hormones and pesticides — the very things that may have contributed to the death of the steer or hog."



Other API plans for reforming the pet food companies include:

- Attending stockholders' meetings to speak as a voice of concern and change.
- Urging pet food companies to release studies and test results from their research investigations and feeding trials.
- Urging pet food companies to change their manufacturing practices voluntarily and provide safety studies of additives, ingredients, and processing practices.

At the Government Level

Federal: The pet food companies are not the only culprits behind the many disagreeable ingredients now included in pet food. In fact, the government at the federal and state levels sanctions much of what may be causing our animals' problems.

The web of oversight protecting our companion animals from harmful food is complicated. The Department of Agriculture (USDA) oversees the processing of the raw material such as meat and grain. The FDA approves the additives such as flavorings, coloring dyes, and preservatives. The Environmental Protection Agency (EPA) sets toxic levels of food ingredients. The Federal Trade Commission (FTC) regulates and holds accountable manufacturers for labeling standards and claims. The federal government leaves it up to each state to pass regulations governing the production of pet food.

The federal oversight of pet food is insufficient. The feed laws governing pet food were originally formulated for livestock, even though livestock feed manufacturing practices and ingredients are vastly different. Thus, state feed control officials are primarily concerned with livestock. Little attention is paid, at either the federal or state level, to the use of diseased animals in the processed food we feed our companion animals.

A paramount question to the federal regulations is why companion animals are permitted to ingest higher levels of preservatives than humans. The argument that these levels were formulated for livestock is highly suspect, since much livestock — retaining high levels of preservatives in their tissues — becomes part of the human food chain.

Other reforms are needed at the federal level. API is looking into FTC standards on false and misleading advertising with specific regard to the marketing of "lower urinary tract diets," since some evidence suggests that these diets are not significantly different in content or urinary acidity output than the other cat foods on the market today.

API is also calling for:

- Reducing the allowable amounts of synthetic preservatives in pet food to human consumption levels; ingredients include EQ, BHA, BHT, RBHQ and other preservatives.
- An FDA moratorium on EQ until Monsanto's new study is complete.
- More detailed listing of ingredients and specific components of by-products and additives.
- Grading standards to be established and advertised on pet food labels.
- A warning to be placed on the label of pet food — in principle similar to the one on cigarette packages — that details what a meat by-product is.

If you wish to express these same concerns to the government, you can write to the following federal agencies:

F.D.A.: David Kessler, M.D.; Commissioner of Food and Drugs HF-1; 5600 Fishers Lane; Rockville, Maryland 20857; (301) 443-2410.

U.S.D.A.: Ashland Clemons; Director; U.S. Department of Agriculture; Standards & Labeling Division; Food Safety and Inspection Service (FSIS); Washington, D.C. 20250; (202) 447-6042.

U.S. EPA: Edwin F. Tinsworth; Director; Registration Division (TS-767); Office of Pesticide Programs; Environmental Protection Agency; Crystal Mall Building No. 2; 1921 Jefferson Davis Highway; Arlington, VA 22202; (703) 557-7760.

State: Local feed control officials, who have the most oversight of all the government offices, treat pet food as a low priority regulatory duty. In a review of laws and regulations that pertain to pet food, API has concluded that most states laws are inadequate. In fact, they do not even meet the minimal guidelines established by AAFCO.

In some cases the oversight of pet food controls have been reduced or contracted out to private organizations, as is the case with Florida. Other states are not concerned with pet food, having no specific laws on their books and no plans to put them there until the public demands otherwise. While others are viewing their role in pet food as diminishing, three states (Oklahoma, Texas, and Washington) have recently changed their pet food regulations that will seriously impact the ability of state officials to inspect pet food.

Here is how you can help. Write to your state's feed control official (listed at the end of this report) and demand:

- Inspections of source material for pet foods, especially rendering plants.
- Better and more frequent inspections of other pet food ingredients.
- Wider samples of cat and dog foods — both dry and canned — for analysis.
- Stronger pet food regulations that at least meet the standards of AAFCO.



In 1990 the *San Francisco Chronicle* reported that euthanized companion animals were found in pet food.

Association of American Feed Control Officials (AAFCO)

Who or what is AAFCO? You see it on nearly every bag or can of food you purchase—"meets the nutritional standards established by AAFCO."

The Association of American Feed Control Officials is a trade association comprised of state government feed control representatives and federal officials as voting members and feed industry representatives as non-voting delegates. This alliance meets annually to determine recommended feed terms such as meat by-products, to set feed control laws which most states strive to adopt, and to set minimal nutritional standards which pet food companies try to meet.

According to a former chairman of the AAFCO pet food committee, "the primary purpose of these regulations and policy statement is to promote a uniform code for the labeling of pet foods."³⁰ The goal of AAFCO, then, is to standardize feed regulations to make enforcement of claims easier, and subsequently make it easier for the pet food manufacturing industry to sell their goods nationwide.

Unfortunately, this has come down to the FDA, AAFCO, and state feed control departments sanctioning the dubious labeling practices detailed above.

API is asking for changes in the way pet food products are labeled and other questionable practices that under close scrutiny do not hold up. These changes include:

- The period and controls used during feeding trials.
- Inclusion of multi-generational test requirements.
- Less ambiguous feed definitions.
- Establishing a by-product nutritional table for use by any and all pet food companies.
- The inclusion of representatives from interested animal welfare organizations at all AAFCO meetings. (API has already been invited.)
- The development of a system whereby manufacturers can be allowed to make quality statements on grades of ingredients used.
- Setting time lines for states to bring their feed control laws in line with at least AAFCO standards.

V. IMMEDIATE SOLUTIONS

Your prime concern is what you're feeding your companion animal. Your three options, ranked from least to best, are: processed pet food by itself; processed pet food supplemented with whole fresh foods; cooking for your companion animals yourself.

Using Processed Pet Food

If you opt to purchase processed pet food, first and foremost, look for foods that go beyond AAFCO standards. While the AAFCO stamp assures you that the pet food you buy meets its standards, AAFCO standards have been challenged as lacking scientific verifiability due to the wide variance in ingredients and the apparent arbitrariness of how minimum nutrient requirements were established.

To be considered a balanced food by AAFCO, pet food must meet certain requirements that can be fulfilled either through chemical analysis of food or through feed trials. "Because the bioavailability of nutrients in pet foods is not known and the requirements for some metabolic states, such as pregnancy and lactation, have not been determined, the gold standard for evaluating a pet food is the performance of cats or dogs fed that food as the sole source of nutrition," write Morris and Rogers.³¹ They further relate, "In companion animal nutrition, there is an increasing awareness that nutrition may play a role in the development of certain diseases, but little sound data have emerged."³² Hence the necessity of long-term feeding trials. There are a number of areas of nutrition that impinge directly on the longevity and health of companion animals that are not covered in any protocol test. Check the label of the pet food you choose to make sure it states that the food has undergone feeding trials.

Chemical analysis of pet food leaves much to be desired and does not take into account how the various ingredients and processing affect the nutritional value of the pet food. "To underscore this point, one veterinarian reputedly concocted a mixture containing the same proportions of protein, fats, and carbohydrates found in a common brand of dog food, by using old leather shoes, crankcase oil and wood shavings."³³

If you don't wish to cook your own pet food or add other foods, you can improve your companion animal's health by changing his diet at least every six months. Dr. Quinton Rogers, a noted feline nutritionist, has said, "We also have done generational studies wherein we leave animals on the same food for 3 to 5 generations. Some foods that pass the feeding trials still won't support animals over the long term. I estimate that, of 100 foods that pass AAFCO analysis criteria, 10 to 20 would not pass the feeding trials, and of those, 10% would not be adequate for long-term feeding. Because there is no way to tell which foods these are, I recommend that foods are changed periodically during an animal's lifetime."³⁴

"One veterinarian reputedly concocted a mixture containing the same proportions of protein, fats, and carbohydrates found in a common brand of dog food, by using old leather shoes, crankcase oil and wood shavings."

Most of all, evaluate the pet foods you're using. Check the label carefully. Investigate the manufacturer's claims. If in doubt, write to the manufacturer as listed above until you are satisfied that you are buying the best food for your companion animals.

Supplementing the Diet

You can also supplement your animal's diet of processed pet food with fresh (raw) vegetables, fruit, and meat. (Cats ingest taurine from meat; a vegetarian diet can supply taurine only if it has been adequately supplemented.) Favorite raw vegetables include chopped parsley, alfalfa sprouts, finely grated carrots, and finely grated zucchini. Favorite cooked vegetables include carrots, corn, peas, green beans, and broccoli.

Cooking Your Own

Because you will know exactly what you are feeding your companion animal, preparing pet food yourself may be the best solution. Many recipes for homemade pet food are available:

- Wysong's brochure, "Fresh and Whole: Getting Involved in Your Pet's Diet," includes nearly a dozen recipes. (Available for \$2.50 from Wysong Corporation, 1880 North Eastman, Midland, MI 48640; phone 517/631-0009.)
- *Dr. Richard Pitcairn's Complete Guide to Natural Health for Dogs and Cats* (Rodale, 383 pp., \$16.95, ISBN 0-87596-243-2) lists dozens of special and specific recipes for your cat's (and dog's) health.
- Joan Harper's *Feed the Kitty — Naturally* (\$5.95) and *The Healthy Dog and Cat Cookbook* (\$6.95) contain "creative, healthy fresh-food recipes for pets." Available from the publisher, Pet Press, Box 328, Route 3, Richland Center, WI 53581. Include \$1.20 for shipping and handling.

Before you decide to feed a homemade recipe to your companion animal, talk to your veterinarian first about the ways he or she recommends to supplement your companion animal's diet.

Just the Beginning

Given the size of our subject — the \$8.9 billion pet food industry — this investigative report can barely tap the surface. API continues to investigate as many areas as our resources permit, and will update our information with further reports and fact sheets.

You can help. API invites readers of this report to provide any information they may have on the pet food industry, specific manufacturers, or specific products. We also welcome hearing about your own successful recipes for cat and dog food, as well as any stories you wish to share about feeding your companion animals.



REFERENCES:

Association of American Feed Control Officials Incorporated. *Official Publication 1995*. Atlanta: AAFCO, 1995.

Barfield, Carol. FDA Petition, Docket Number 93P0081/CP1, accepted February 25, 1993.

Becker, Ross. "Is your dog's food safe?" *Good Dog!*, November/December 1995, 7.

Cargill, James, MA, MBA, MS, and Susan Thorpe-Vargas, MS. "Feed that dog! Part VI." *DOGworld*, December 1993, 36.

Case, Linda P., M.S., Daniel P. Carey, D.V.M., and Diane A. Hirakawa, Ph.D. *Canine and Feline Nutrition: A Resource for Companion Animal Professionals*. St. Louis: Mosby, 1995.

Coffman, Howard D. *The Dry Dog Food Reference*. Nashua: PigDog Press, 1995.

Eckhouse, John. "How Dogs and Cats Get Recycled Into Pet Food." *San Francisco Chronicle*, February 19, 1990.

Knight-Ridder News Syndicate. "Nature's Recipe Recalls Dog Food That Contains Vomitoxin," August 28, 1995.

Morris, James G., and Quinton R. Rogers. *Assessment of the Nutritional Adequacy of Pet Foods Through the Life Cycle*. *Journal of Nutrition*, 124 (1994): 2520S-253S.

Newman, Lisa. *What's in your pet's food?* Tucson & Phoenix: Holistic Animal Care, 1994.

New York State Department of Agriculture and Markets. *1994 Commercial Feed Analysis Annual Report*. Albany: Division of Food Inspection Services, 1995.

"Petfood activist." *Petfood Industry*, September/October 1991, 4.

Pet Food Institute. *Fact Sheet 1994*. Washington: Pet Food Institute, 1994.

Phillips, Tim, DVM. "Rendered Products Guide." *Petfood Industry*, January/February 1994, 12-17, 21.

Pitcairn, Richard H., D.V.M., Ph.D., and Susan Hubble Pitcairn. *Dr. Pitcairn's Complete Guide to Natural Health for Dogs & Cats*. Emmaus: Rodale, 1995.

Plechner, Alfred J., DVM, and Martin Zucker. *Pet Allergies: Remedies for an Epidemic*. Inglewood: Wilshire Book Co., 1986.

Rhode Island Department of Environmental Management, Division of Agriculture. *1994 Report of the Inspection and Analysis of Commercial Feeds, Fertilizers and Liming Materials*. Providence: Division of Agriculture, 1995.

Roudebush, Philip, DVM. "Pet food additives." *JAVMA*, 203 (1993): 1667-1670.

Rouse, Raymond H. "Feed Fats," *Petfood Industry*, March/April 1987, 7.

Sellers, Richard. "Regulating petfood with an open mind." *Petfood Industry*, November/December 1990, 41-44.

Smith, Carin A. "Research Roundup: Changes and challenges in feline nutrition." *JAVMA* 203 (1993), 1395-1400.

Winters, Ruth, M.S. *A Consumer's Dictionary of Food Additives*. New York: Crown, 1994.

Wysong, R. L. "The 'complete' myth." *Petfood Industry*, September/October 1990, 24-28.

[———]. *Fresh and Whole: Getting Involved in Your Pet's Diet*. Midland: Wysong Corporation, 1990.

[———]. *Rationale for Animal Nutrition*. Midland: Inquiry Press, 1993.

NOTES:

1. Plechner and Zucker, 12.
2. Pet Food Institute, (2).
3. Morris and Rogers, 2520S.
4. Pitcairn and Pitcairn, 16.
5. Rouse, 28.
6. Newman.
7. Becker, 7.
8. Knight-Ridder.
9. Winters, 281.
10. Roudebush, 1669.
11. Winters, 1.
12. Cargill and Thorpe-Vargas, 38.
13. Cargill and Thorpe-Vargas, 40.
14. "Petfood activist."
15. Newman.
16. Barfield, 235.
17. Cargill and Thorpe-Vargas, 37.
18. Wysong, *Rationale*, 40-41.
19. Wysong, *Fresh and Whole*, 10.
20. Roudebush, 1669.
21. Roudebush, 1670.
22. Wysong, *Rationale*, 47.
23. Case et al., 156.
24. Case et al., 155.
25. Plechner and Zucker, 14.
26. Wysong, *Fresh and Whole*, 9.
27. Wysong, *Rationale*, 18-19.
28. Morris and Rogers, 2521S.
29. Plechner and Zucker, 5-6.
30. Sellers, 41.
31. Morris and Rogers, 2531S.
32. Morris and Rogers, 2532S.
33. Pitcairn and Pitcairn, 11.
34. Smith, 1398.

NAMES AND ADDRESSES OF FEED CONTROL OFFICIALS:

ALABAMA: Lance Hester; Director; Agricultural Chemistry Division; Department of Agriculture and Industries; Richard Beard Building; P.O. Box 3336; Montgomery, AL 36109-0336; (334) 240-7202.

ALASKA: Doug Warner; Chief Agricultural Inspector; Alaska Division of Agriculture; P.O. Box 949; Palmer, AK 99645; (907) 745-7200.

ARIZONA: Jack Peterson; Associate Director; Arizona Department of Agriculture; Environmental Services Division; 1688 West Adams; Phoenix AZ 85007; (602) 542-3579.

ARKANSAS: Jamey Johnson; Director; Division of Feeds, Fertilizer & Pesticides; State Plant Board; 1 Natural Resources Drive; Little Rock, AR 72205; (501) 225-1598.

CALIFORNIA: Steve Wong; Branch Chief; Feed, Fertilizer & Livestock Drugs; 1220 N Street, Room A 372; Sacramento, CA 95814-5621; (916) 654-0574.

COLORADO: Julie Zimmerman; Program Administrator; Colorado Department of Agriculture; Feed Control; 2331 W. 31st Ave.; Denver, CO 80211; (303) 477-0081.

CONNECTICUT: Alton A. VanDyke; Lead Marketing & Inspection Representative; Bureau of Regulation & Inspection; Connecticut Department of Agriculture; State Office Building, Room 291, 165 Capitol Ave.; Hartford, CT 06106; (203) 566-5268.

DELAWARE: Teresa A. Crenshaw; State Chemist; Division of Consumer Protection; Delaware Department of Agriculture; 2320 South DuPont Highway; Dover, DE 19901; (302) 739-4811.

FLORIDA: Arthur B. Frassrand; Administrator; Feed Section; Florida De-

partment of Agriculture & Consumer Services; 3125 Conner Blvd., ME-2; Tallahassee, FL 32399-1650; (904) 488-7627.

GEORGIA: Charles P. Frank; Director; Plant Food, Feed and Grain Division; Georgia Department of Agriculture; Capitol Square; Atlanta, GA 30334; (404) 656-3637.

HAWAII: Samuel G. Camp; Manager; Commodities Branch; Hawaii Department of Agriculture; P.O. Box 22159; Honolulu, HI 96823-2159; (808) 973-9563.

IDAHO: Michael Cooper; Chief; Bureau of Feeds and Plant Services; Idaho Department of Agriculture; P.O. Box 790; Boise, ID 83701; (208) 332-8620.

ILLINOIS: Mark Ringler; Bureau Manager; Bureau of Agricultural Products Inspection; Department of Agriculture; Division of Agricultural Industry Regulation; Fairgrounds, P.O. Box 19281; Springfield, IL 62794; (217) 785-1082.

INDIANA: Jeris G. Eikenberry; Feed Administrator; Purdue University; 1154 Biochemistry Building; West Lafayette, IN 47907-1154; (317) 494-1550.

IOWA: Duane H. Leive; Chief; Commercial Feed Bureau; Iowa Department of Agriculture; Wallace State Office Building; Des Moines, IA 50319; (515) 281-8598.

KANSAS: Larry D. Woodson; Director; State Board of Agriculture; Division of Inspections; 901 S. Kansas Ave., 7th Floor; Topeka, KS 66612-1272; (913) 296-3786.

KENTUCKY: Wilbur Frye; Director; Division of Regulatory Services; Room 103, Regulatory Services Building; University of Kentucky; Lexington,



KY 40546-0275; (606) 257-2785.

LOUISIANA: Hershel F. Morris, Jr.; Director; Louisiana Department of Agriculture & Forestry; Division of Agricultural Chemistry; P.O. Box 25060, University Station; Baton Rouge, LA 70894-5060; (504) 342-5812.

MAINE: Clayton Davis; Director; Division of Regulations; Department of Agriculture, Food & Rural Resources; State House Station No. 28; Augusta, ME 04333; (207) 287-3841.

MARYLAND: Robert Hopkins; Maryland Department of Agriculture; 50 Harry S. Truman Pky.; Annapolis, MD 21401; (410) 821-2721.

MASSACHUSETTS: George M. Porter; Chief; Bureau of Farm Products; Massachusetts Department of Food & Agriculture; Leverett Saltonstall Building; 100 Cambridge St.; Boston, MA 02202; (617) 727-3020 (Ext. 141).

MICHIGAN: Kenneth J. Rauscher; Agricultural Products Manager; Michigan Department of Agriculture; Pesticide and Plant Pest Management Division; P.O. Box 30017; Lansing, MI 48909; (517) 373-9753.

MINNESOTA: Thomas A. McConnell; Assistant Director; Division of Agronomy Services; Minnesota Department of Agriculture; 90 West Plato Blvd.; St. Paul, MN 55107; (612) 297-2418.

MISSISSIPPI: Joe B. Hardy, Jr.; Director; Bureau of Regulatory Services; Department of Agriculture and Commerce; P.O. Box 1609; Jackson, MS 39215-1609; (601) 354-7063.

MISSOURI: Darrel L. Sharpe; Bureau of Feed and Seed; Plant Industries Division; Missouri Department of Agriculture; P.O. Box 630; Jefferson City, MO 65102-0630; (314) 751-4310.

MONTANA: Will Kissinger; Bureau Chief; Technical Services Bureau; Montana Department of Agriculture; P.O. Box 200201; Helena, MT 59620-0201; (406) 444-5400.

NEBRASKA: Richard Reiman; Director; Bureau of Plant Industry; Nebraska Department of Agriculture; P.O. Box 94756; Lincoln, NE 68509; (402) 471-2394.

NEVADA: Robert Gronowski; Chief; Bureau of Plant Industry; Nevada Department of Agriculture; 350 Capital Hill Ave., P.O. Box 11100; Reno, NV 89510; (702) 688-1180.

NEW HAMPSHIRE: Richard Uncles; Director; Bureau of Markets; New Hampshire Department of Agriculture; 10 Ferry Street; Caller Box 2042; Concord, NH 03302-2042; (603) 271-2753.

NEW JERSEY: David T. Shang; Chief; Bureau of Agricultural Chemistry; Division of Regulatory Services; New Jersey Department of Agriculture; CN 330; Trenton, NJ 08625; (609) 984-2222.

NEW MEXICO: Barry Patterson; Division Director; Agricultural & Environmental Services; P.O. Box 30005, Dept. 3150; Las Cruces, NM 88003-0005; (505) 646-3208.

NEW YORK: Joseph Ferrara; Director; Division of Food Inspection Services; Department of Agriculture & Markets; Capital Plaza-I-Winners Circle; Albany, NY 12235; (518) 457-4492.

NORTH CAROLINA: Robert L. Gordon; Director; Food and Drug Protection Division; North Carolina Department of Agriculture; 4000 Reedy Creek Road; Raleigh, NC 27606; (919) 733-7366.

NORTH DAKOTA: Bob Vandal; Department of Health and Consolidated Laboratories; P.O. Box 937; Bismarck, ND 58502-0937; (701) 328-1501.

OHIO: William K. Roach; Chief; Ohio Department of Agriculture; Reynoldsburg Laboratory Divisions; 8995 E. Main St.; Reynoldsburg, OH 43068-3399; (614) 728-6200.

OKLAHOMA: Ray Elliott; Acting Director; Oklahoma Department of Agriculture; Plant Industry & Consumer Services; 2800 N. Lincoln Blvd.; Oklahoma City, OK 73105-4298; (405) 521-3864.

OREGON: Herschel Pendell; Feed Specialist; Oregon Department of Agriculture; 635 Capitol Street NE; Salem, OR 97310-0110; (503) 986-4752.

PENNSYLVANIA: Earl M. Haas; Chief; Division of Agronomic Services; Pennsylvania Department of Agriculture; Bureau of Plant Industry; 2301 N. Cameron Street; Harrisburg, PA 17110-9408; (717) 772-5215.

RHODE ISLAND: Stephen M. Volpe; Principal Inspector; Division of Agriculture; Department of Environmental Management; 22 Hayes St.; Providence, RI 02908; (401) 277-2781 (Ext. 4501).

SOUTH CAROLINA: Thomas W. (Bill) Brooks, Ph.D.; Assistant Commissioner for Laboratory Services; Laboratory Division; P.O. Box 11280; Columbia, SC 29211-1280; (803) 737-2070.

SOUTH DAKOTA: Roger Scheibe; Director; South Dakota Department of Agriculture; Division of Regulatory Services; 523 East Capitol; Pierre, SD 57501; (605) 773-3724.

TENNESSEE: Jimmy Hopper; Director; Division of Quality and Standards; Tennessee Department of Agriculture; P.O. Box 40627, Melrose Station; Nashville, TN 37204; (615) 360-0155.

TEXAS: Dr. George W. Latimer; State Chemist; Office of the Texas State Chemist; P.O. Box 3160; College Station, TX 77841-3160; (409) 845-1121.

UTAH: Stephen T. Birmingham; Utah Department of Agriculture; 350 North Redwood Road; Box 146500; Salt Lake City, UT 84114-6500; (801) 538-7183.

VERMONT: Philip R. Benedict; Director; Plant Industry, Laboratory and Standards Division; 116 State Street, Drawer 20; Montpelier, VT 05620-2901; (802) 828-2431.

VIRGINIA: C. Kermit Spruill, Jr.; Director; Virginia Department of Agriculture and Consumer Resources; Division of Product and Industry Regulation; P.O. Box 1163; Richmond, VA 23209; (804) 786-3523.

WASHINGTON: Bill Brookreson; Assistant Director; Washington Department of Agriculture; Pesticide Management Division; P.O. Box 42589; Olympia, WA 98504-2589; (360) 902-2011.

WEST VIRGINIA: Raymond J. Barber; Director; Regulatory Protection Division; West Virginia Department of Agriculture; 1900 Kanawha Blvd., East; Charleston, WV 25305; (304) 558-2208.

WISCONSIN: Nicholas J. Neher; Administrator; Agricultural Resource Management Division; Wisconsin Department of Agriculture; Trade & Consumer Protection; P.O. Box 8911; Madison, WI 53708; (608) 224-4567.

WYOMING: James W. Bigelow; Director; Technical Services; Wyoming Department of Agriculture; 2219 Carey Ave.; Cheyenne, WY 82002-0100; (307) 777-6590.

CANADA: Linda Morrison; Associate Director; Feed Section; Plant Products Division; Agriculture and Agri-Food Canada; 59 Camelot Drive; Nepean, Ontario, Canada K1A 0Y9; (613) 952-8000.

